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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KUMAR, PANKAJ	
ART UNIT	**PAPER NUMBER**
2631	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/769,202	NAYLER ET AL.	
	Examiner	Art Unit	
	Pankaj Kumar	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 10-16* is/are rejected.

7)☒ Claim(s) *3-9, 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's background of the invention in view of Schramm 6208663 and further in view of Strandwitz 6522352.

3. As per claim 1, the references teach :

a) a first physical layer circuit (applicant's background of the invention page 2 lines 10-14: HPNA 1.0 standard uses PPM; page 3 lines 1-5: "... each of the PPM ... scheme ... and ... the QAM .. scheme typically require distinct physical layer circuitry ... both physical layer circuits typically exist in an HPNA 2.0 device because it must be able to transmit and receive both HPNA 1.0 frames and HPNA 2.0 frames ... ") using a first modulation scheme (applicant's background of the invention pages 2-3: PPM; page 2 lines 10-14: HPNA 1.0 standard uses PPM; page 3 lines 1-5: "... each of the PPM ... scheme ... and ... the QAM .. scheme typically require distinct physical layer circuitry ... both physical layer circuits typically exist in an HPNA 2.0 device because it must be able to transmit and receive both HPNA 1.0 frames and HPNA 2.0 frames ... ") ;

b) a second physical layer circuit (applicant's background of the invention page 2 lines 10-14: HPNA 2.0 standard uses QAM (HPNA 2.0 has been adopted by ITU-T in G.989 as shown in

attachment)) a second modulation scheme (applicant's background of the invention page 3: QAM; page 3 lines 1-5: "... each of the PPM ... scheme ... and ... the QAM .. scheme typically require distinct physical layer circuitry ... both physical layer circuits typically exist in an HPNA 2.0 device because it must be able to transmit and receive both HPNA 1.0 frames and HPNA 2.0 frames ... ") ; and

c) the first physical layer circuit (applicant's background of the invention page 2: HPNA 1.0 standard) and the second physical layer circuit being (applicant's background of the invention page 2: HPNA 2.0 standard) operatively coupled for generating a compatibility mode frame, by the second physical layer circuit (applicant's background of the invention page 2 lines 27-28: "HPNA 2.0 standard provides for use of compatibility mode frames"), comprising the initial header overhead bits modulated using the first modulation scheme (applicant's background of the invention page 2 lines 27-28: "HPNA 2.0 standard ... PPM modulated header") and the remainder of the frame modulated using the second modulation scheme (applicant's background of the invention page 2 lines 27-29: "HPNA 2.0 standard ... QAM modulated body").

What applicant's background of the invention does not teach is generating data frames including overhead bits and data bits received from the media access layer circuit and modulating such frames of data for transmission on a network medium. What Schramm teaches is generating data frames (Schramm fig. 4b: LLC frame, RLC blocks) including overhead bits (Schramm fig. 4b: FH, BH) and data bits (Schramm fig. 4b: information field, info field) and modulating such frames of data for transmission on a network medium (Schramm fig. 3: network of BTSs, BSCs, MSCs). What Strandwitz teaches is receiving from the media access layer circuit (Strandwitz fig. 3: 300 physical layer receives from 303 for transmission). It would have been obvious to

one skilled in the art at the time of the invention to modify applicant's background of the invention with Schramm and Strandwitz. One would be motivated to do so if one desired error handling or automatic retransmission as taught in Schramm and if one desired a wireless camera device as taught in Strandwitz.

4. As per claim 2, the references teach the network transmitter of claim 1, wherein the first modulation scheme is a pulse position modulation scheme (applicant's background of the invention pages 2-3: PPM; page 2 lines 10-14: HPNA 1.0 standard uses PPM; page 3 lines 1-5: "... each of the PPM ... scheme ... and ... the QAM .. scheme typically require distinct physical layer circuitry ... ") and the second physical layer circuit (applicant's background of the invention page 2 lines 10-14: HPNA 2.0 standard uses QAM (HPNA 2.0 has been adopted by ITU-T in G.989 as shown in attachment)) obtains pulse position data from the first physical layer circuit (applicant's background of the invention page 3 lines 1-5: "... each of the PPM ... scheme ... and ... the QAM .. scheme typically require distinct physical layer circuitry ... both physical layer circuits typically exist in an HPNA 2.0 device because it must be able to transmit and receive both HPNA 1.0 frames and HPNA 2.0 frames ... ") for the initial header overhead bits (applicant's background of the invention page 2 lines 27-28: "HPNA 2.0 standard ... PPM modulated header").

5. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel 6212240 in view of Anne 6603808.

6. (103) As per claim 10, Scheibel teaches : a) transmitting initial header overhead bits (Scheibel fig. 2: 202) complying with the pulse position modulation scheme by transmitting pulses of a quadrature amplitude modulated carrier, utilizing a quadrature amplitude modulation physical layer circuit (this is not in Scheibel but it would be obvious for Scheibel to teach this as explained below), in time durations complying with valid pulse positions (Scheibel fig. 2: inherent for the QAM pulse that is transmitted to be at a position in time that is valid since a non-valid time position has not been claimed); and b) transmitting the remainder of the frame utilizing the quadrature amplitude modulation scheme (Scheibel fig. 2: 202, QAM).

7. Scheibel does not teach transmitting initial header overhead bits complying with the pulse position modulation scheme by transmitting pulses of a quadrature amplitude modulated carrier, utilizing a quadrature amplitude modulation physical layer circuit. Scheibel teaches QPSK modulation (which is also QAM) instead of PPM. Anne 6603808 teaches PPM (Anne: abstract). It would have been obvious to one skilled in the art at the time of the invention to modify Scheibel modulation to be PPM instead of QPSK (QAM) by modifying the algorithm (Scheibel col. 2 lines 44-49: "The transmitter ... comprises well-known ... software such as that used in ... modulators ..."). One would be motivated to do so if one wanted to have a modem for use over telephone lines as taught in Anne (Anne: Title).

8. As per claim 11, the method of claim 10, wherein the positions of the pulses is determined by a pulse position modulation physical layer circuit (Anne fig. 4: 404 physical memory layer for PPM) operatively coupled to the quadrature amplitude modulation physical layer circuit (Anne fig. 4: 408 physical memory layer for QAM).

9. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel 6212240 in view of Anne 6603808 and further in view of Chan 6741659.

10. As per claim 12, Scheibel in view of Anne teach the method of claim 11. Scheibel in view of Anne does not teach the remainder of claim 11. Chan teaches wherein the pulse position modulation scheme encodes two bits of data in each pulse by generating each pulse at a position corresponding to one of four possible pulse positions (Chan fig. 7) following a predetermined time gap (Chan fig. 7: There is a time gap associated with each position of the pulse). It would have been obvious to one skilled in the art at the time of the invention to modify Scheibel in view of Anne with Chan. One would be motivated to do so if one wanted a wireless infrared digital audio transmitting system as specified in Chan.

11. As per claim 13, the method of claim 12, wherein the remainder of the frame utilizing the quadrature amplitude modulation comprises a sequence of gaps interspacing quadrature amplitude modulated data, the sequence of gaps being at the predetermined pulse position modulation time gaps (Chan fig. 7: There is a time gap associated with each position of the pulse; Anne: The same timing (i.e. fig. 3a carrier timing) is used for QAM and PPM and thus the time gaps for both PPM and QAM are going to be the same).

12. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel 6212240 in view of Anne 6603808 in view of Chan 6741659 and further in view of Strandwitz 6522352.

13. As per claim 14, Scheibel in view of Anne in view of Chan teach the method of claim 13. Scheibel in view of Anne in view of Chan do not teach the remainder of claim 14. Strandwitz

teaches the remainder of claim 14 by teaching a step of receiving the frame from a media access controller which in turn receives a data file for transmission from an upper layer application (Strandwitz fig. 3: MAC gets data from the upper layers for transmission via a modem.) It would have been obvious to one skilled in the art at the time of the invention to modify Scheibel in view of Anne and further in view of Chan with Strandwitz. One would have been motivated to do so if one wanted a self-contained wireless camera.

14. As per claim 15, the method of claim 14, further including a scrambling at least a portion of the remainder of the frame modulated using quadrature amplitude modulation scheme to a scrambled format prior to modulation, the scrambled format providing for adequate bit transitions to limit electromagnetic noise outside a predefined transmission band (Chan: FEC encoding is scrambling by encoding; FEC is for error correction which is meant to fix errors and thus reduce noise).

15. As per claim 16, the method of claim 15, wherein the initial header overhead bits comprises 16 bits (Scheibel fig. 2: 203) and the remainder of the frame comprises additional overhead bits including 48 preamble bits (Scheibel fig. 2: 204) which are quadrature amplitude modulated (Scheibel fig. 2: 204) in an unscrambled format (Scheibel does not discuss scrambling nor error correction coding and thus it is inherent for it to be unscrambled). Scheibel does not teach specific number of bits such as 16 or 48. It would have been obvious to one skilled in the art at the time of the invention to modify Scheibel to teach specific the specific numbers of the number of bits. One would be motivated to do so since picking a number requires routine skill in the art.

Allowable Subject Matter

16. Claims 3-9, 17 are objected to but would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Mon, Tues, Wed and Thurs after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK

TESFALDET BOCURE
PRIMARY EXAMINER